

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Literature, Science, and the Arts

Elizabeth A. Tibbetts, assistant professor of ecology and evolutionary biology, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D. 2003 Cornell University  
B.S. 1998 University of Michigan

Professional Record:

2005 – present Assistant Professor, Department of Ecology and Evolutionary Biology,  
University of Michigan  
2003 - 2005 Post-doctoral Fellow, Arizona Research Labs, University of Arizona

Summary of Evaluation:

Teaching – Professor Tibbetts is a well-respected teacher who serves students, the department, and the Program in Biology by teaching courses in animal behavior for undergraduate non-majors, and behavioral ecology for concentrators and graduate students. She uses an active learning approach to add to the content, presenting students with data, for example, so they can learn to develop hypotheses and predictions. Professor Tibbetts also has a remarkable record of mentoring students at all levels. She has mentored an astonishing 56 undergraduate students in her lab, with 25 operating under her direct supervision, and has co-authored eight publications with undergraduates. Her graduate students have been extraordinarily successful, with productive publication records, prestigious national awards, and excellent offers for post-doctoral positions.

Research – Professor Tibbetts has established an internationally recognized research program investigating two central problems in the study of animal behavior: individual recognition and honesty in communication. Her ground-breaking studies demonstrate that wasps discriminate one from another on the basis of facial differences and that they use visual signals to communicate about their fighting ability. These findings are widely regarded as two of the most significant discoveries in animal behavior research in recent memory. Professor Tibbetts' research on behavior is wide ranging, incorporating concepts from development and physiological function to evolution. She publishes her findings in high-profile, high-impact scientific journals that attract world-wide attention from the scientific community and public media. Distinguished colleagues in the field regard her as one of the top researchers in insect social behavior.

Recent and Significant Publications:

“Specialized face learning is associated with individual recognition in paper wasps,” with M. Sheehan, *Science*, in press.

“Social punishment of dishonest signalers caused by mismatch between signal and behavior,” with A. Isso, *Current Biology*, 20, 2010, pp. 1637-1640.

“The condition-dependence and heritability of signaling color traits in paper wasps,” *American Naturalist*, 5, 2010, pp. 495–503.

“Resource value and the context-dependence of receiver behavior,” *Proceedings of the Royal Society London B*, 275, 2008, pp. 2201–2206.

Service – Professor Tibbetts has served on important departmental committees. She has also served as a reviewer for several top tier journals and for the National Science Foundation. She is currently a member of the editorial board of the official journal of the International Union for the Study of Social Insects. This past summer she was an undergraduate summer research sponsor for the Summer Research Opportunity Program (SROP), a Rackham program to increase the participation of underrepresented groups in research.

#### External Reviews:

##### Reviewer (A)

“It is a pleasure to recommend Dr. Elizabeth Tibbetts for promotion to Associate Professor! ...Tibbetts has become an internationally recognised scholar, despite the relatively recent start of her career. It is clear that her career has absolutely flourished since she came to Ann Arbor... Dr. Tibbetts has an outstanding track record in the study of social insects, with over 30 publications in leading international journals...”

##### Reviewer (B)

“...Elizabeth Tibbetts is an exceptionally gifted scientist [of her generation]. In my view she is currently publishing the most exciting work on Polistes wasps... These papers are very significant and their impact reaches far beyond the particular field of insect sociobiology. ...Tibbetts belongs to the top five percent of scholars [in her cohort] working on insect behavior, and she has to be considered a world leader in her field.”

##### Reviewer (C)

“Dr. Tibbetts is a clever behavioural ecologist, addressing novel aspects of behaviour and developing a strong reputation in the field. ... Dr. Tibbetts has a strong record of publication, developing her research from her ground-breaking initial studies showing wasps recognise facial patterns to detect individuals. This was clever and novel research. ... Her work with undergraduates, and record of publication with them, is notable. ... I believe Dr. Tibbetts will continue to develop into one of the leaders in animal behaviour research.”

##### Reviewer (D)

“Dr. Tibbetts is a rising star, someone whose work already is shaping the field beyond what would be expected for a scientist at her career stage, and she is clearly still on a steep upward trajectory. ... I would rank Dr. Tibbetts among the top of her cohort of evolutionary ecologists studying behavioral adaptation, and probably the very best person [in her generation] studying animal signaling in the field today.”

##### Reviewer (E)

“I believe Dr. Tibbetts to be one of the country's leading scientists [of her generation] in the area of animal communication and, more generally, animal behavior. ... I was extraordinarily impressed by the magnitude and depth of the work done since Dr. Tibbetts arrived at the

University of Michigan, including then-unpublished results. ... Her sophisticated understanding of the evolutionary 'game' that gives rise to signal form as well as her expertly executed empirical research, and that of her students, makes her a leader in the field of social signals.”

Reviewer (F)

“Dr. Tibbetts work is widely viewed as among the most innovative, exciting and insightful research programs for any animal behaviorist [of her generation] in the world. ...she deserves tenure based on the impressive quantity and quality of her publications that have earned her a high level of national-international recognition.”

Reviewer (G)


“...I am very impressed at the careful choice of important problems, and how so many of them correspond to publications in prestigious journals... ..her research program is well regarded and competitive... I have great respect of Dr. Tibbett’s research and accomplishments.”

Reviewer (H)

“She is engaged in a kind of work on behavior and evolution that has become all too rare, involving observation and simple but incisive ethological experiments, and directed at understanding the social behavior of wasps...”

Summary of Recommendation:

Professor Tibbetts is an internationally-recognized scholar, an excellent teacher and mentor, and an exemplary citizen. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Elizabeth A. Tibbetts be promoted to the rank of associate professor of ecology and evolutionary biology, with tenure, in the College of Literature, Science, and the Arts.

  
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Terrence J. McDonald  
Arthur F. Thurnau Professor,  
Professor of History, and Dean,  
College of Literature, Science, and the Arts

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